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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/786,529	LUCIANI, JAMES V.	
	Examiner	Art Unit	
	BRIAN O CONNOR	2475	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *91-142* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *91-142* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *2/23/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

With respect to claim 18, the claim number 18 is marked as being cancelled (page 3 of 15) and an independent claim (see page 8 of 15) in the listing of claims. The pending claim 18 is required to be renumbered as claim 118.

With respect to claim 119, the pending claim 119 depends on claim 118 which is not present in the claim listing.

With respect to claim 120, the pending claim 120 depends on claim 118 which is not present in the claim listing.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 18, 91-96, and 119-123 are rejected under 35 U.S.C. 102(e) as being anticipated by Horikawa et al. (US 6,009,102; hereafter Horikawa).

With respect to claim 91, Horikawa discloses a method to obtain information transmitted between a source station (**Terminal 11 of FIG. 1**) and a destination station in a non broadcast multiple access network (**Network 1 of FIG. 1; column 4, lines 18-24; column 3, lines 21-24**), comprising:

establishing a connection between the source station (**Terminal 11 of FIG. 1**) and a server (**Router Server 400 of FIG. 1**) for the destination station (**Terminal 41 of FIG. 1**), the server having a server cache (**IP ROUTING TABLE, 205 of FIG. 2**) containing the information (**AUTHENTICATION KEY of Table in FIG. 7**);

transmitting a request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**) having parameters relating to the information (**AUTHENTICATION KEY of Table in FIG. 7**) to the server (**Router Server 400 of FIG. 1**); and

receiving a reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) containing the information from the server (**Router Server 400 of FIG. 1**), the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) matching the parameters (**AUTHENTICATION KEY of Table in FIG. 7**) of the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**).

With respect to claim 92, Horikawa further discloses wherein the information comprises an internetwork layer address (**ADDRESS INFORMATION of Table in FIG. 7**) of the destination station (**Terminal 41 of FIG. 1**).

With respect to claim 93, Horikawa further discloses wherein the information comprises an instance of a resource information (**AUTHENTICATION KEY of Table in FIG. 7**).

With respect to claim 94, Horikawa further discloses wherein the resource information comprises a resource availability and an upper layer address information (**ADDRESS INFORMATION of Table in FIG. 7**).

With respect to claim 95, Horikawa further discloses comprising:

caching the address in a source cache (**IP ROUTING TABLE, 205 of FIG. 2**);

inserting the address(**ADDRESS INFORMATION of Table in FIG. 7**) in a data packet; and

forwarding the data packet to the destination station (**Terminal 41 of FIG. 1**).

With respect to claim 96, Horikawa further discloses wherein the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**) and the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) are instances of a protocol packet (**column 3, lines 22-24; see the NHRP protocol**).

With respect to claim 18, Horikawa discloses a system comprising:

a server (**Router Server 400 of FIG. 1**) operating in a non broadcast multiple access network (NBMA) (**Network 1 of FIG. 1; column 4, lines 18-24; column 3, lines 21-25**), the server (**Router Server 400 of FIG. 1**) having a cache (**IP ROUTING TABLE, 205 of FIG. 2**) containing information on a destination station (**Terminal 41 of FIG. 1**);

a source station (**Terminal 11 of FIG. 1**) coupled to the server (**Router Server 400 of FIG. 1**) via a connection to obtain the information, the source station (**Terminal 11 of FIG. 1**) transmitting a request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**) to the server, the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**) having parameters relating to the information; and

wherein the server (**Router Server 400 of FIG. 1**) transmits a reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) containing the information to the source station (**Terminal 11 of FIG. 1**), the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) matching the parameters of the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**).

With respect to claim 119, Horikawa further discloses wherein the information comprises an internetwork layer address (**ADDRESS INFORMATION of Table in FIG. 7**) of the destination station (**Terminal 41 of FIG. 1**).

With respect to claim 120, Horikawa further discloses wherein the information comprises an instance of a resource information (**AUTHENTICATION KEY of Table in FIG. 7**).

With respect to claim 121, Horikawa further discloses wherein the resource information comprises a resource availability and an upper layer address information (**ADDRESS INFORMATION of Table in FIG. 7**).

With respect to claim 122, Horikawa further discloses wherein the source station (**Terminal 11 of FIG. 1**) comprises:

a source cache to cache the address, the address (**ADDRESS INFORMATION of Table in FIG. 7**) being inserted in a data packet, the data packet being forwarded to the destination station (**Terminal 41 of FIG. 1**).

With respect to claim 123, Horikawa further discloses wherein the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**) and the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) are instances of a protocol packet (**column 3, lines 22-24; see the NHRP protocol**).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 18, 91-116, and 118-141 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view of Cox et al. (US 6,189,041 B1; hereafter Cox).

With respect to claim 97, Horikawa does not disclose wherein the protocol packet comprises a fixed part and a mandatory part.

Cox discloses wherein the protocol packet comprises a fixed part (**501, 502, 503, 504, 505 of FIG. 5**) and a mandatory part (**510, 511 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 98, Horikawa does not disclose wherein the protocol packet further comprises an extensions part.

Cox discloses wherein the protocol packet further comprises an extensions part (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 99, Horikawa does not disclose wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

Cox discloses wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field (**514 of FIG. 5**) specifying if the extension part (**514, 515, 516, 517 of FIG. 5**) exists and a location of the extension part if the extension part exists (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 100, Horikawa does not disclose wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried,

a protocol field specifying a protocol being used,

a packet length field specifying a length of the protocol packet,

a checksum field specifying a checksum value,

a version field specifying a version of the protocol,

a type and length of source address field specifying a type and length of a source NBMA address, and

a type and length of source subaddress field specifying a type and length of a source NBMA subaddress.

Cox discloses wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried,

a protocol field specifying a protocol being used,

a packet length field specifying a length of the protocol packet,

a checksum field specifying a checksum value,

a version field specifying a version of the protocol,

a type and length of source address field (**503 of FIG. 5**) specifying a type and length of a source NBMA address, and

a type and length of source subaddress field (**504 of FIG. 5**) specifying a type and length of a source NBMA subaddress.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 101, Horikawa does not disclose wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type.

Cox discloses wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type (**column 6, lines 1-10**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 102, Horikawa does not disclose wherein the request packet is one of a resolution request packet and a registration request packet, the

resolution and the registration request packets corresponding to the resolution and registration request types, respectively.

Cox discloses wherein the request packet is one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types (**column 6, lines 1-10**), respectively.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 103, Horikawa does not disclose wherein the reply packet is one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

Cox discloses wherein the reply packet is one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types (**column 6, lines 1-10**), respectively.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have

been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 104, Horikawa does not disclose wherein the mandatory part comprises a common header.

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) comprises a common header (**510 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 105, Horikawa does not disclose wherein the mandatory part further comprises at least a client information entry (CIE).

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) further comprises at least a client information entry (CIE) (**512 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have

been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 106, Horikawa does not disclose wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

Cox discloses wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field (**510 of FIG. 5**) specifying a request ID.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 107, Horikawa does not disclose wherein the common header further comprises at least one of a source NBMA address field specifying the source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the

source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

Cox discloses wherein the common header further comprises at least one of a source NBMA address field (**505 of Fig. 5**) specifying the source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 108, Horikawa does not disclose wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

Cox discloses wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet (**column 6, lines 1-10**), a

maximum transmission unit field specifying a maximum transmission unit (**511 of FIG. 5**) and a holding time field specifying a holding time for which data in the CIE are valid.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 109, Horikawa does not disclose wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client subaddress time and length field specifying a time and length of a client sub address interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA sub address field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

Cox discloses wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client subaddress time and length field specifying a time and length of a client sub address interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client NBMA address field specifying a client NBMA address, a client NBMA

sub address field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 110, Horikawa does not disclose wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution request packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 111, Horikawa does not disclose wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution reply packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 112, Horikawa does not disclose wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

Cox discloses wherein the flag of the registration request packet (**column 6, lines 1-10**) comprises at least a uniqueness value specifying that a registration of the information is unique.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 113, Horikawa does not disclose wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

Cox discloses wherein the extension part comprises at least an extension type-length-value (TLV) triplet (**column 8, lines 40-42**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 114, Horikawa does not disclose wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

Cox discloses wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of

Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 115, Horikawa does not disclose wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

Cox discloses wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value (**column 8, lines 40-42**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 116, Horikawa does not disclose wherein the extension part is terminated by an end-of-extension TLV triplet.

Cox discloses wherein the extension part is terminated by an end-of-extension TLV triplet (**column 8, lines 40-42**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 124, Horikawa does not disclose wherein the protocol packet comprises a fixed part and a mandatory part.

Cox discloses wherein the protocol packet comprises a fixed part (**501, 502, 503, 504, 505 of FIG. 5**) and a mandatory part (**510, 511 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 125, Horikawa does not disclose wherein the protocol packet further comprises an extensions part.

Cox discloses wherein the protocol packet further comprises an extensions part (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 126, Horikawa does not disclose wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

Cox discloses wherein the fixed part (**501, 502, 503, 504, 505 of FIG. 5**) comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part (**514, 515, 516, 517 of FIG. 5**) exists and a location of the extension part if the extension part exists (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of

Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 127, Horikawa does not disclose wherein the fixed part further comprises at least one of a link:

layer address field specifying a type of link layer addresses being carried,

a protocol field specifying a protocol being used,

a packet length field specifying a length of the protocol packet,

a checksum field specifying a checksum value,

a version field specifying a version of the protocol,

a type and length of source address field specifying a type and length of a source NBMA address, and a type and length of source sub address field specifying a type and length of a source NBMA subaddress.

Cox discloses wherein the fixed part further comprises at least one of a link:

layer address field specifying a type of link layer addresses being carried,

a protocol field specifying a protocol being used,

a packet length field specifying a length of the protocol packet,

a checksum field specifying a checksum value,

a version field specifying a version of the protocol,

a type and length of source address field (**503 of FIG. 5**) specifying a type and length of a source NBMA address, and a type and length of source sub address field (**504 of FIG. 5**) specifying a type and length of a source NBMA subaddress.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 128, Horikawa does not disclose wherein the mandatory part comprises a common header.

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) comprises a common header (**510 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 129, Horikawa does not disclose wherein the mandatory part further comprises at least a client information entry (CIE).

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) further comprises at least a client information entry (CIE) (**512 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 130, Horikawa does not disclose wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

Cox discloses wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 131, Horikawa does not disclose wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type,

and a registration reply type, the request packet being one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively, and the reply packet being one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

Cox discloses wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type (**column 6, lines 1-10**), the request packet being one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively, and the reply packet being one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 132, Horikawa does not disclose wherein the common header further comprises at least one of a source NBMA address field specifying the source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

Cox discloses wherein the common header further comprises at least one of a source NBMA address field (**505 of Fig. 5**) specifying the source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 133, Horikawa does not disclose wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum

transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

Cox discloses wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet (**column 6, lines 1-10**), a maximum transmission unit field specifying a maximum transmission unit (**511 of FIG. 5**) and a holding time field specifying a holding time for which data in the CIE (**512 of FIG. 5**) are valid.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 134, Horikawa does not disclose wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client subaddress time and length field specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA sub address field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

Cox discloses wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client subaddress time and length field specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client NBMA address field (**505 of Fig. 5**) specifying a client NBMA address, a client NBMA sub address field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 135, Horikawa does not disclose wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution request packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE (**512 of FIG. 5**) matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 136, Horikawa does not disclose wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution reply packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a

router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE (**512 of FIG. 5**) matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 137, Horikawa does not disclose wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

Cox discloses wherein the flag of the registration request packet (**column 6, lines 1-10**) comprises at least a uniqueness value specifying that a registration of the information is unique.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the

extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 138, Horikawa does not disclose wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

Cox discloses wherein the extension part (**514, 515, 516, 517 of FIG. 5**) comprises at least an extension type-length-value (TLV) triplet (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 139, Horikawa does not disclose wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

Cox discloses wherein the extension TLV triplet (**514, 515, 516, 517 of FIG. 5**) in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 140, Horikawa does not disclose wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

Cox discloses wherein the extension TLV triplet (**514, 515, 516, 517 of FIG. 5**) comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol (**column 8, lines 40-42**) being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

With respect to claim 141, Horikawa does not disclose wherein the extension part is terminated by an end-of-extension TLV triplet.

Cox discloses wherein the extension part is terminated by an end-of-extension TLV triplet (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

6. Claims 117 and 142 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view of Cox and further in view of Beser (US 6,442,158 B1).

With respect to claim 117, Horikawa does not disclose wherein the extension TL V triplet contains vendor private information including a vendor identification.

Beser discloses wherein the extension TLV triplet (**column 14, lines 8-10**) contains vendor private information including a vendor identification (**column 14, TABLE 6, see the Vendor Identifier**).

Beser realizes the ease of implementation while configuration network system when using TLV formats (**column 2, lines 43-50**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the TLV format as taught by Beser with the method and system of Horikawa to produce an expected and successful nework route setting technique.

With respect to claim 142, Horikawa does not disclose wherein the extension TLV triplet contains vendor private information including a vendor identification.

Beser discloses wherein the extension TLV triplet (**column 14, lines 8-10**) contains vendor private information including a vendor identification (**column 14, TABLE 6, see the Vendor Identifier**).

Beser realizes the ease of implementation while configuration network system when using TLV formats (**column 2, lines 43-50**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the TLV format as taught by Beser with the method and system of Horikawa to produce an expected and successful nework route setting technique.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN O CONNOR whose telephone number is (571)270-1081. The examiner can normally be reached on M-F, 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert W Wilson/
Primary Examiner, Art Unit 2475

Brian O'Connor
Examiner
February 23, 2012